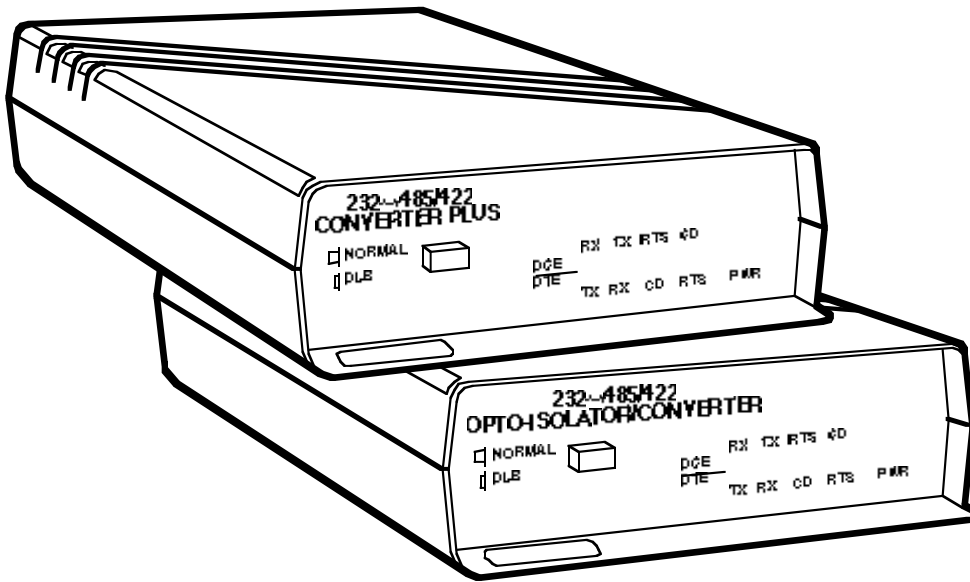


RS-232↔RS-485/422 Converter Plus



Transmits data fast—up to 115 Kbps! Plus three selectable modes of operation.

Key Features

- ▶ Send data at speeds up to 115.2 Kbps.
- ▶ Switch the RS-232 interface for DCE or DTE.
- ▶ Opto-Isolation prevents damaging ground loops.
- ▶ Link up to 32 devices together in 2-wire multipoint applications.
- ▶ Available in standalone and rackmount versions.
- ▶ Bidirectional conversion from RS-232 (V.24) to RS-422/485.

Transmit data up to 4 miles (6.4 km) over 2- or 4-wire lines in full- or half-duplex. And send it at speeds up to up to 115.2 Kbps. Use these Converters with PCs and other RS-232 equipment that has the 16550 UART.

Switch settings let you customize the Converter to your specific application. Now set line bias to match your 485 equipment, set the line termination resistors, and switch the RS-232 interface for DCE or DTE.

Improved surge suppression keeps your Converter safe from induced surges on the RS-485 side. If you are transmitting between buildings, or over long distances, order the Opto-Isolation for protection against ground-loop surges.

Specially designed circuitry lets the Converter inhibit the CTS signal if the

CD signal is present. That way a device on the 485 side can act as a controller.

Data Enable Mode is also faster—up to 64 Kbps! So you won't lose data when you transmit in Data Enable.

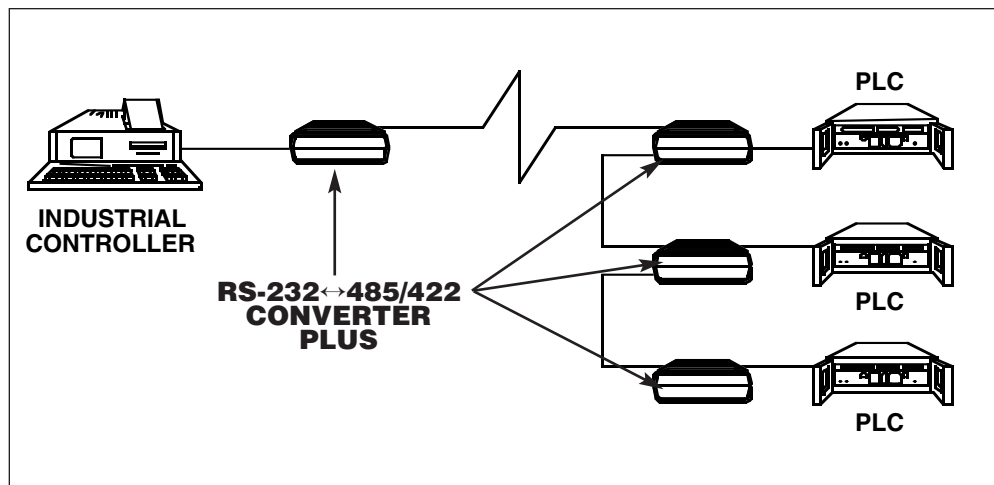
Typical Speed vs. Distance

This chart is based on 4-wire point-to-point 26-AWG twisted pair. Note that speed and distances will depend on actual operating conditions.

<u>Speed</u>	<u>Distance</u>
1200 bps	6.4 km
2400 bps	4.8 km
4800 bps	3.7 km
9600 bps	2.7 km
19,200 bps	1.9 km
38,400 bps	1.4 km
64,000 bps	1.2 km
115,000 bps	0.6 km

The advantage of the RS-232↔485/422 Converter Plus over other line drivers and modems is that it can also operate in multi-point applications. Depending on the operating environment, as many as 32 devices can be linked together using a single 2-wire twisted-pair cable.

In the application pictured on the right, an industrial controller is used to gather information from several remote programmable logic controller stations (PLCs). A system protocol has been defined so that all the PLCs receive the information sent by the industrial controller, but only the remote station specifically addressed will respond. In this system, the industrial controller and all the remote stations are DTE devices.



Opto-Isolation

IC109A and IC109C protect one segment of your extended network from problems that arise on the other. Inside the RS-232↔485/422 Converter Plus with

Opto-Isolation, optical-isolation circuits convert electrical signals to light and back again, to keep signal noise and ground loops from crossing between segments of your RS-485 installation. That

means the electrical noise from your factory floor won't affect your office communications, and the difference in ground potential over long distances and between buildings won't damage your sensitive equipment.

Specifications

Interface — (1) Asynchronous RS-232 port (DTE/DCE selectable); (1) asynchronous RS-485 port with improved surge protection and switch-selectable line termination or line bias

Connectors — (1) DB25 female [RS-232 port]; (1) four-screw terminal block [RS-485 port]

Data Rate — 0 to 115 Kbps, transparent to data

Optical Isolation — IC109AE and IC109C only

Operation — Point to point or multipoint; half- or full-duplex; transparent to data; selectable RTS-to-CTS delay with option to inhibit CTS if CD is present (DCE); DTE or DCE configurable RS-232 port; normal or loopback operation

Pins Supported — RS-232 port: TD, RD, RTS, CTS, CD, DTR, DSR, SG, and FG; RS-485 port: TXA, TXB, RXA, RXB

Indicators — (5) LEDs: TX, RX, RTS, CD, and PWR

Timeout Delay — 0.15, 0.7, 2, 7, or 70 msec (for the RS-485 driver enabled by data feature)

Temperature Tolerance — Operating: 0 to 50° C; Storage: -20 to +70° C

Humidity Tolerance — 0 to 95%, noncondensing

MTBF — Approximately 180,000 hours (ground benign environment)

Power — IC108AE and IC109AE: PS154E (Input is 220V, 50Hz. Output is AC 17VCT and 0.7A.); IC108C and IC109C: Powered by the RM005A rack

Size — IC108A and IC109A: H4.6 x W14 x D21.6 cm; IC108C and IC109C: L18.8 x W11.9 cm, 1.6 cm thick

Weight — IC108AE and IC109AE: 0.5 kg; Power supply only (PS154E): (0.2 kg)

The complete package

What you get when you order the RS-232↔485/422 Converter Plus or Converter Plus with Opto-Isolation

- (1) RS-232↔485/422 Converter Plus or Converter Plus with Opto-Isolation
- (1) Power supply (with IC108AE and IC109AE only)
- (1) User's manual

Additional equipment you might need

- 2-Pair, Category 3 Twisted-Pair Cable (Part Number EYN712A)
- Multi Rack 16 (Part Number RM005)

Ordering Information

This information will help you place your order quickly.

PRODUCT NAME	ORDER CODE
RS-232↔RS-485/422 Converter Plus	
Standalone	IC108AE
Rackmount Card	IC108C
RS-232↔RS-485/422 Converter Plus with Opto-Isolation	
Standalone	IC109AE
Rackmount Card	IC109C